Work Order ID 114630

March-11-14 2:53:35 PM

114630

Item ID: D4634-1 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Fwd, Center Ceiling Panel

Start Date: 12/03/2014 **Start Qty:** 1.00 *1*

Required Date: 12/03/2014 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Approvals: **Process Plan:** MLJ **Date:** 14-03-12 **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr / **Revision Nbr**: D4634 / F									
100	HAND FINISHING THERMOFORMING	0.00							DAS 07 9-89
100		0.00				x1			14/04/03
Thermoform	**Memo**								
Thermoforming Machine	Cut Blanks								
105	Dry Material	0.00							DAS 07 9-89
105		0.00				x1			14/04/03
HandThermo	**Memo**								
Hand Finishing Thermoforming	Dry Sheet as per QSI022 POLYCARBONATE								

Temp: 245 deg

Time IN: 5:00 PM

Time OUT: 6:00 AM

APR 0 3 2014

Per...

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function
☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other

Work Order ID 114630

March-11-14 2:53:35 PM

114630

Item ID: D4634-1 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Fwd, Center Ceiling Panel

Start Date: 12/03/2014 **Start Qty:** 1.00 *1*

Required Date: 12/03/2014 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110		0.00							DAS 07 9-89
110	THERMOFORMING MACHINE					X1			
Thermoform	**Memo**	0.00							14/04/03
Thermoforming Machine	Thermoform as per Dwg. D4634-1 and Folio FTA144								
	Dwg. Rev. F								
	Folio Rev. D								
	Visually inspect for proper formation and texture								
130		0.00							
130	HAND FINISHING THERMOFORMING					X1			14/04/09
Thermoform	**Memo**	0.00							
Thermoforming Machine	Trim to Finished Dimensions								
140	QC6- Inspect dimensions to drawing	0.00							
140	Dimensional Inspection		DAS 16 9-89 14/04/15			(X1)			
QC	**Memo**	0.00							
Quality Control	Fill in Inspection Sheet Rev A								

DQA: _____ Date: _____

DART AEROSPACE

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

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☐ Marks/Chatter
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☐ Misaligned/off center
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☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other

Item ID: D4634-1
Revision ID:
Item Name: Fwd, Center Ceiling Panel
Start Date: 12/03/2014 **Start Qty:** 1.00 *1*
Required Date: 12/03/2014 **Req'd Qty:** 1.00 *1*
Reference:

Accept *N900040100*

Setup Start *NS1*
Stop *NS2*

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC5- Inspect part completeness to step on W/O MLS	0.00							
150									
QC	**Memo**	0.00							
Quality Control									
160		0.00							
160	Packaging								
Packaging	**Memo** Seal M-F	0.00				①	SAD	14/04/15	
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	**Memo**	0.00				MCJ	14-04-15		
Quality Control									

MCJ 14-04-15

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

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☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
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☐ BOM/Route
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☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other

Picklist Print

March-11-14 2:53:23 PM

Work Order ID: 114630 *114630*

Parent Item: D4634-1 *D4634-1*

Parent Item Name: Fwd, Center Ceiling Panel

Start Date: 12/03/2014 **Required Date:** 12/03/2014

Start Qty: 1.00 **Required Qty:** 1.00

Comments: IPP Rev.A New Issue 12/05/07 DL VERIFIED BY:JLM IPP Rev. B Dwg. Update 13/07/09 DL verf:DD IPP Rev C Dwg Update, Material Change 13/12/18 DL IPP Rev D Dwg Update Change Mtl Qty. 14/01/20 DL

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MLEXS.093-F6006-07		Purchased	No			100	sf	840.7600	17.3	18			DAS 07 9-89
MLEXS.093-F6006-07									**				
GE PLASTICS LEXAN SHEET													

Location		Loc Qty	Loc Code
MAT023		840.76	
	114459	229.26	
	123105	38	
	124501	573.5	

128668

18 sq ft.

14/04/15

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

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Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

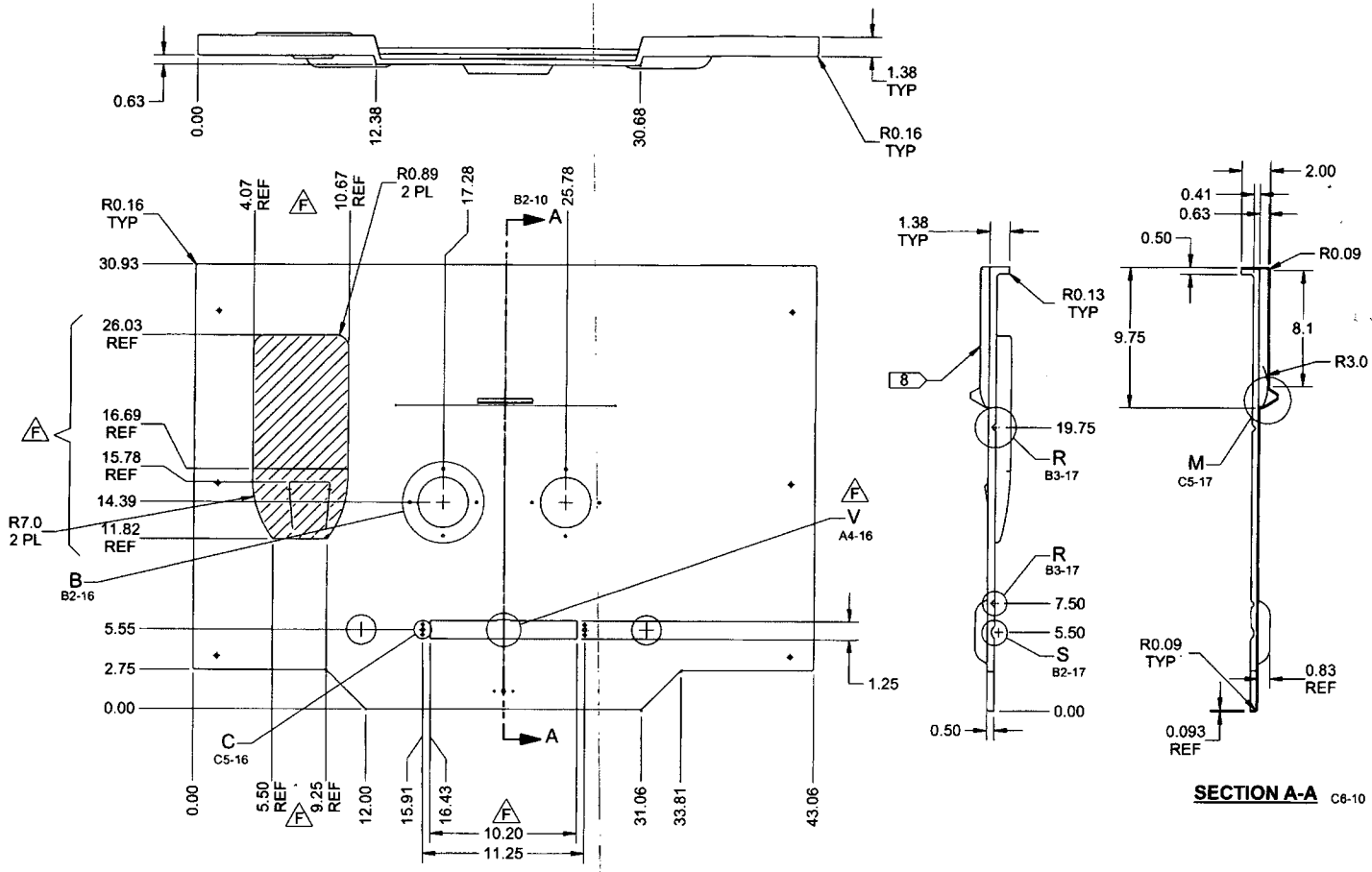
FAULT CATEGORY

Landing Gear

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☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other



SECTION A-A C6-10

114630MCJ
1403-12

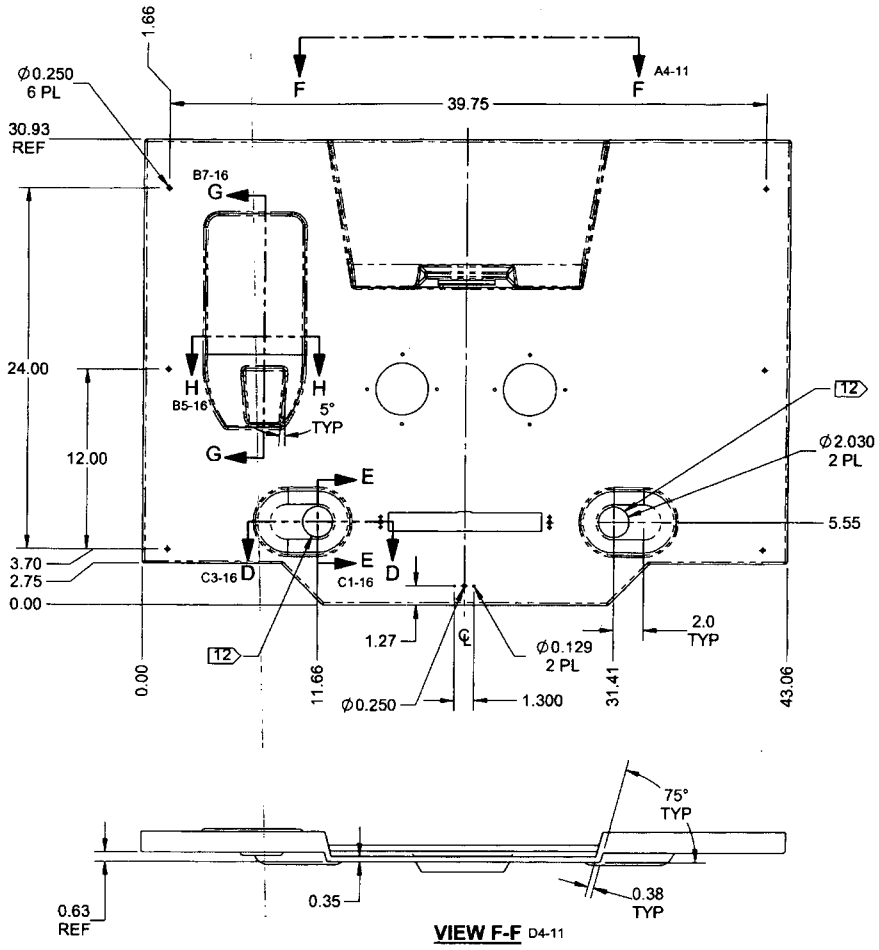
NOTES:
1) MATERIAL: F6006 SUEDE/POLISHED GY5B133 LIGHT GREY LEXAN SHEET 0.093 THICK (REF DART SPEC MLEXS.093-F6006-07)
2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: 5.65 lbs
8) TEXTURE ON THIS SIDE
9) 0.14 RADIUS NOT SHOWN FOR CLARITY
10) DRILL & TRIM D4634-1 PER TOOL DT9836
11) THERMOFORM PER QSI 022 USING DT9844 TOOL
 MIN. THICKNESS AFTER FORMING:
 SHADED AREA = 0.020
 EDGES = 0.060
 ELSEWHERE = 0.070
12) LOCATE ⌀2.030 AT CENTER OF PROTRUDED SURFACE AS SHOWN

D4634-1 FWD, CENTER CEILING PANEL

RELEASED
2014 FEB 25

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED	SC	DRAWING NO. D4634 REV. F
MFG. APPR.		SHEET 10 OF 17
APPROVED		TITLE CENTER CEILING PANELS SCALE NTS
DE APPR.		
DATE 14.02.03		

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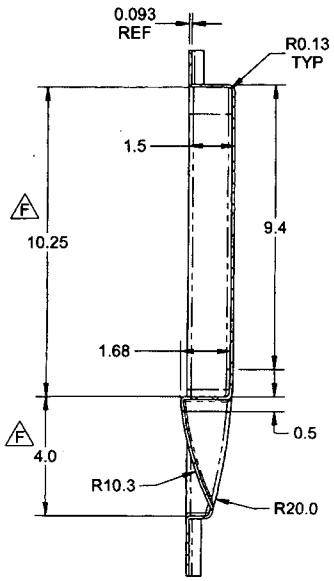
VIEW F-F D4-11

RELEASED
2014 FEB 25

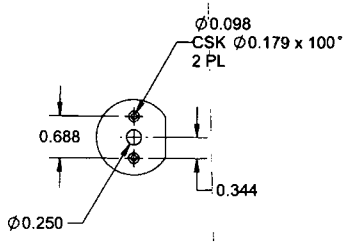
D4634-1 FWD. CENTER CEILING PANEL
AUXILIARY VIEW

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED	BC	DRAWING NO. D4634 REV. F
MFG. APPR.		SHEET 11 OF 17
APPROVED		TITLE CENTER CEILING PANELS SCALE NTS
DE APPR.		
DATE	14.02.03	

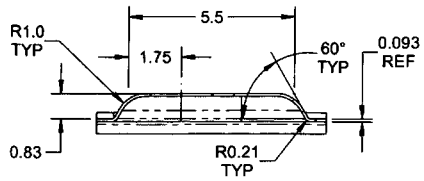
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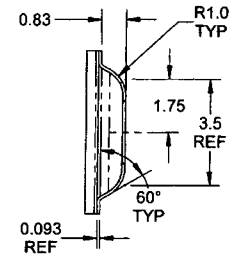
SECTION G-G C5-11
SCALE 4X



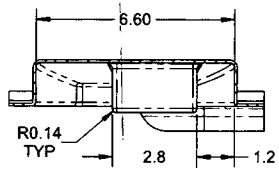
DETAIL C B7-10 B4-12 B4-14
SCALE 4X



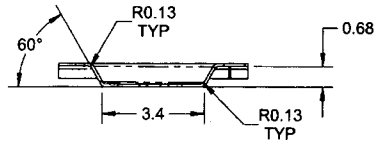
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SCALE 2X



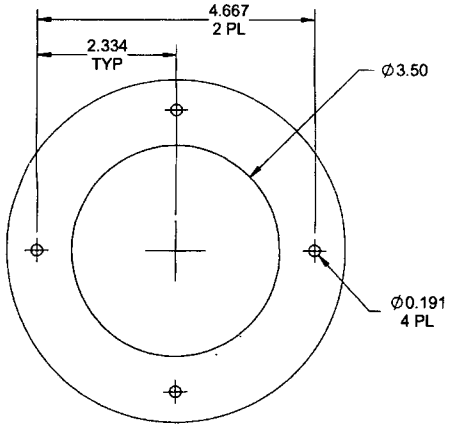
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SCALE 4X



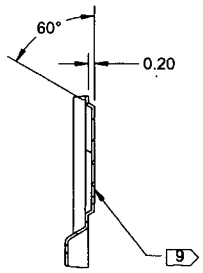
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SCALE 2X



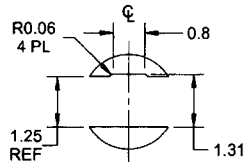
SECTION J-J B6-13
SCALE 2X



DETAIL B B7-10
SCALE 4X
2 PL



DETAIL L B2-13 C2-13 B2-14 C2-14
SCALE 4X
TYP

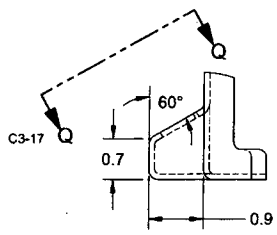


DETAIL V C4-10 B4-12 C4-14
SCALE 2X
SIMILAR

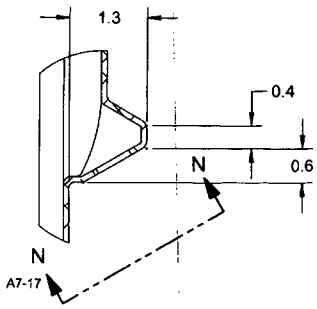
RELEASED
2014 FEB 25

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. D4634 REV. F
CHECKED	DC	SHEET 16 OF 17
MFG. APPR.		TITLE CENTER CEILING PANELS SCALE NTS
APPROVED		
DE APPR.		
DATE	14.02.03	

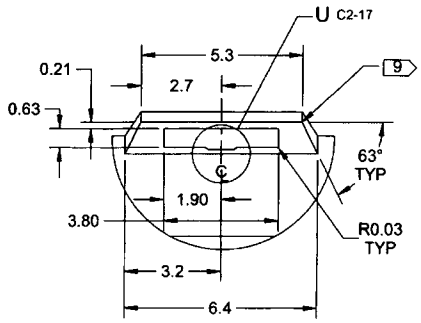
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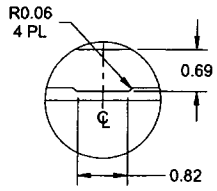
DETAIL P B3-14
SCALE 2X



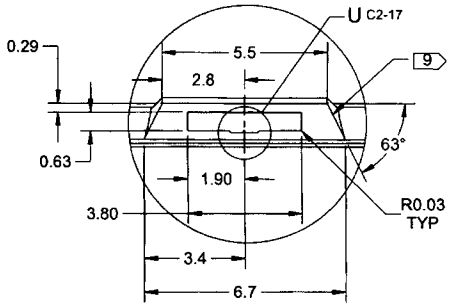
DETAIL M C3-10
SCALE 2X



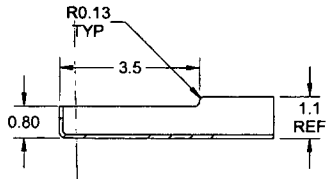
DETAIL Q B4-15 D8-17
SCALE 0.5X



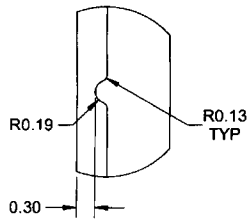
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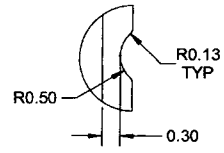
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SCALE 0.5X



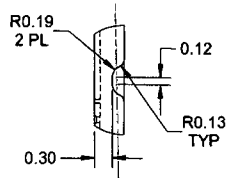
SECTION O-O B6-14
SCALE 1.3X



DETAIL R B3-10 C3-10 B2-12
SCALE 4X



DETAIL S B3-10 C2-12
SCALE 4X



DETAIL T C2-14
SCALE 4X

RELEASED
2014 FEB 25

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED	DC	DRAWING NO. D4634 REV. F
MFG. APPR.		SHEET 17 OF 17
APPROVED		TITLE CENTER CEILING PANELS SCALE NTS
DE APPR.		
DATE	14.02.03	

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DART AEROSPACE LTD

Description: Fwd Center Ceiling Panel		**Work Order:**	14630
Inspection Drawing: 4634-1	Rev: F	Part Number:	D4634-1

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
12.00	+/-0.030	12.00	✓		M-T	SFAB-21
24.00	+/-0.030	24.00	✓		↓	↓
39.75	+/-0.030	39.75	✓		↓	↓
11.66	+/-0.030	11.66	✓		↓	↓
31.41	+/-0.030	31.41	✓		↓	↓
1.300	+/-0.010	1.300	✓		↓	SFAB-21
Ø0.250	+0.005 -0.001	Ø0.250	✓		Vern	SFAB-08
Ø2.030	+0.002 -0.001	Ø2.030	✓		↓	↓
4.667	+/-0.010	4.667	✓		↓	↓
2.334	+/-0.010	2.334	✓		↓	↓
Ø3.50	+/-0.010	Ø3.50	✓		↓	↓
Ø0.191	+/-0.005 -0.001	Ø0.191	✓		↓	↓
3.80	+/-0.030	3.80	✓		↓	↓
0.63	+/-0.030	0.63	✓		↓	↓
1.25	+/-0.030	1.25	✓		Vern	SFAB-08
10.20	+/-0.030	10.20	✓		M-T	SFAB-21
11.25	+/-0.030	11.25	✓		M-T	SFAB-21

Measured by:	Checked By:	QC inspector:	Engineering Approval (*if necessary*):
SAD	DAS	DAS	
Date 14/04/14	Date 16 9-89 14/04/15	Date 16 9-89 14/04/15	Date